THE VETERINARY RECORD

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Edited by WILLIAM HUNTING, F.R.C.V.S.

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LATIN.

There was a time when a first class man could acquaint himself with all that was known in the world—at any rate with all knowledge that was recorded. In those days all that was worth knowing was written in Latin or Greek, so every educated man had to learn Latin, or even both languages.

Those days have long gone by, but the schools and school masters have obstinately continued in the course their fathers ran, and examiners have servilely followed. Now, half the knowledge of the world is not alluded to in any Latin or Greek works, and no knowledge expressed in Latin or Greek is not available in other languages. Of course we are told *ad nauseam* that the classical languages are the basis of half our modern tongues, and that no man can have a literary education unless he reads Latin and Greek. The reply is, that very few men possess a literary education, and that the possession seems to add little to their value except as school masters or clergymen.

The time spent on half learning the classical languages is on an average six years, and very few lads at the end of that time can read three lines of Latin or Greek, and not one in a thousand has any idea of the form or beauty of the language he can only understand by the aid of a translation.

The real reason so many men still pretend that classics are useful is that the oldest and most eminent schools insist upon it and the Universities sneer at all knowledge not accompanied by classics.

The narrowness of English education has been recognised at last by the University of London, who have arranged their Matriculation with Latin as an optional subject. There are sufficient subjects in this twentieth century to permit the greatest variety of education, and the University of London recognises that a man may be learned who has no acquaintance with Latin.

Perhaps no class is more conservative in educational methods than the medical profession. The General Medical Council has accepted the matriculation certificate of the University of London as sufficient for registration as a medical student, but not without protest. At the last meeting of the Royal College of Physicians it was proposed—"that in the opinion of the College it is desirable that Latin should continue to form a part of the preliminary education of medical students." It is a sign of modern permeation that the motion was rejected by a large majority.

We have no objection to a man learning Latin if his parents can afford the expense and he is big enough to add that subject to the mass of more useful subjects he must master. But in 90 per cent. of cases the struggle is not worth the candle. Of course Latin is compulsory for veterinary students.

VOMITING IN A HORSE—RECOVERY.

The following case may be of interest to some of your readers, as in my humble opinion it shows one or two unique features.

At 6 a.m. on October 6th a bay mare, aged four years, was taken bad with colic; she would lie down for a minute or so and then get up again, no energy in her actions whatever. Her pulse was 90 and jerky, respiration about 30, also breathing with the stomach, mucous membrane yellowish in appearance.

9 a.m. Gave ½ oz. of Cannabis Indicæ, which was the only bottle of medicine I had. The membrana nictitans had turned grey, and the pulse was thready. Took her out of the stable as it was very hot, and placed her under a tree.

No improvement up to 11 a.m., at which time she commenced to moan, she was lying down and making fruitless attempts to rise, bringing her head every now and again round to her flank.

At 11.30 had her lifted up and gave her ½ bucket of water which she drank very slowly. She remained on her feet until 1 p.m., at which time she was standing with legs extended, and she commenced to vomit from mouth and nostrils, and three minutes after, she lay down.

From 1 to 4.30 she lay on the ground feebly pawing and working the body back a yard or two and kept up a continuous moaning. Gave her half-pint of whiskey, which quietened her for a time; also turned her over. The membrana nictitans had now changed, the capillaries were showing up very prominently and almost black in appearance, the colour (with the exception of the capillaries) was still grey. 8 p.m.—Still moaning and pawing the ground. Gave another half-pint of whiskey, put a sack of oats under her head, turned her over, and put a couple of rugs on. The ears and legs were stone cold.

Oct. 7th.—Mare still living and moaning, extremities cold, pulse fuller and stronger. 8 a.m. Took a sudden change for the better, raised her forequarters and commenced to nibble the grass. Gave her some long hay which she ate, also offered her a bucket of water, but she would not drink.

8.30 a.m.—Lifted her on to her feet, and she staggered off into the stable and ate a feed of oats.

10 a.m.—She was lying down for about an hour when she commenced to breathe very rapidly and pawing the ground; appeared *in extremis*

By 11 a.m. she had quietened down again, she got up and commenced to eat, then she passed a large quantity of hard fæces, appeared greatly relieved.

2 p.m. Mare has been standing up since 11 a.m.; appears to have made a complete recovery.

Oct. 8th.—Mare all right and eating heartily.

Comments.—The animal had not been working for some time, it had however been turned out to graze daily. In the first instance the greyish colour of mucous membrane and membrana nictitans led me to suspect rupture and internal bleeding, and the subsequent vomiting practically confirmed me in my diagnosis. Then the sudden change of the membrana nictitans, the capillaries standing out so prominently and so black in colour, threw me into deep water. The animal's subsequent recovery was a welcome, although unexpected finale. Another thing I must mention was that the hair of the mane and tail came out in handfuls, a thing I understand is a fairly accurate ante-mortem sign.

I must apologise if I have given too much detail, but they are just as they occurred. Out here there are very few vets.; in our case we are visited by our Veterinary Officer about once in three months, if he is required any oftener he has to be brought from Pretoria, which is over 200 miles away, and could not get here under three days.

G. A. Morgan,
(S. A. Constabulary.)

Buffels, Northern Transvaal,
Nov. 12th, 1902.

THE DEXTER BREED "MONSTROSITIES."

By R. A. Stock, F.R.C.V.S., Henley-on-Thames.

My attention was called for the first time to this subject one day in March last, and I think it one of the most extraordinary occurrences I have observed during a long and varied practice. At the risk of exciting the risibility of my brother practitioners, and after a lengthy consideration I have determined to record what to me is a most novel experience, and accordingly send it with much trepidation for publication in our up-to-date little *Veterinary Record*.

Called to attend a parturition case at a gentleman's seat in this neighbourhood, where a herd of these handsome, dainty little animals is kept for dairy purposes. I was just a little too late—the cow had calved a monstrosity which had been deeply buried, therefore I could not see it without exhumation. The bailiff observed that it was another "bulldog." I asked him what he meant, he then informed me that the calf was exactly like a bulldog, and that in all the places he had lived at where Dexters were kept he had always one or two cases yearly, and that it was a well known fact to those gentlemen who kept the breed. I expressed my astonishment and ignorance, but to convince me he mentioned several places where he had seen it, and instanced a case at Mortimer where a gentleman had given up keeping the breed owing to its prevalence. I elicited from him that he could always tell about three months before calving that the cow was going to give birth to a monstrosity; at that time the abdomen was abnormally large, there was great dullness, loss of strength and appetite, and the cow was very uneasy. Giving more particulars and referring to the birth, he stated that the cow so affected passed an enormous quantity of a thick, white, glairy fluid from three to four pailsfull, had an extremely difficult labour, and that the monstrosity was invariably burst with the pressure, and that the intestines of the calf were always forced out first and were often hanging down to the cow's hocks presenting a most loathsome sight.

On Sept. 27th last I had an opportunity of seeing the whole thing for myself. I was sent for to see a Dexter cow, the messenger stating that the cows inside was coming out. I arrived just in time to see a monstrosity dropped, the intestines hanging down to the cow's hocks, as so graphically described by informant, the bailiff. The byre was flooded with many gallons of a white, thick, glairy fluid. After attending to the mother, who was much exhausted, I turned my attention to the birth. I carefully examined it with much interest. The head was exactly like that of an old bulldog the lower jaw underhung to the extent of two inches, eyes prominent, body about 16 inches long, 24 inches in circumference, rudimentary *calf* legs hanging from the top of the back were about 4 inches long resembling the fins of a fish.

Never having heard or read of this idiosyncrasy of the breed is my inducemement for publishing this. Since writing the above I have made inquiries and have found from many persons that it is exceedingly common in the breed, but no one can assign a reason or explanation of the fact, much as they desire to know. Perhaps some Irish practitioner could kindly throw a light on this very interesting subject.

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

The quarterly meeting was held at the Central Hotel, Carlisle, on Friday, 28th November. The President (Mr. J. Hewson, V.S.) took the chair, and there were also present Mr. Warwick, Edinburgh, who contributed a paper on "White Scour in Calves," Messrs. F. W. Garnett, Windermere, hon. sec. and treasurer; Lindsay, Dumfries; Steel, Wigton; John Armstrong, Penrith; Moore, Appleby; Howe, Keswick; and Ashley, Dalston.

The Chairman mentioned letters of regret at absence from Mr. Latta, Ambleside; Prof. Williams, Prof. McCall, Mr. H. Thompson, Aspatria, and others.

The National Society's Visit to Windermere.

Discussion took place with reference to the forthcoming visit of the National Veterinary Society to Windermere, and it was suggested that a drive and luncheon should be arranged for the visitors. As the funds of the branch would not justify such an expense, it was unanimously decided, on the motion of the President, supported by Mr. Armstrong, Mr. Ashley, Mr. Steel, and other members that the members of the Border Counties V.M.S. and other veterinary surgeons in the district be invited to subscribe to a fund to enable this arrangement to be carried out.

The matter was left in the hands of the President and Secretary to carry out and report.

WHITE SCOUR AND LUNG DISEASE AMONG YOUNG CALVES IN IRELAND.

By Mr. Warwick, Edinburgh.

Mr. President and Gentlemen,—The subject which I have the honour of bringing before you is, without doubt, one of paramount importance to both veterinarians and agriculturists. Your honorary secretary, Mr.

Garnett, requested me to give a short account of this particular disease. In complying with this request I find it a somewhat difficult task, chiefly owing to the various phases which the disease tends to assume. However I have endeavoured to give you a brief account, though I treat the subject in a cursory manner.

From what we gather in our various journals on veterinary science it will be seen that this disease is not confined to Ireland, but exists in several of the European states, and was recognised in England during the earlier part of last century and described as violent diarrhœa, with inflammation of the umbilicus. In Germany the disease has been known for some years and was looked upon as being of an infectious nature from the onset. Obich in 1865, Roloff in 1875, and Franch in 1876 77 described the disease. The latter was of the opinion that the calf was infected with some miasm obtained from the vaginal mucous membrane of the mother during birth, He also thought the infective agent existed in the floor of the building.

Dieckerhoff says the causal microbe is unknown. He, however, recommends cleaning of the maternal passages prior to the birth of the calf.

Perroncito in 1885 in Italy undertook the investigation of this disease, and found that certain bacteria present in the intestinal contents of affected animals were pathogenic to calves and guinea pigs.

Yenson also studied the disease in Denmark and found it to be gastro-enteritis, complicated with septicæmia He also showed that the causal microbe was closely related to the bacterium coli commune. Since then the disease has been studied by Piana, Mazzants, Vigezzi, Monts and Veratti, who confirm Yenson's opinion.

Owing to the great mortality among young calves in the Province of Munster, the Department of Agriculture and Technical Instruction for Ireland decided to carry out a complete inquiry into the subject on scientific and practical lines. Realising the importance of the subject the Department decided to make the inquiry as thorough as possible, and in order that everything should be done that modern veterinary science could suggest, they placed the direction of inquiry in the hands of the highest authority available, that of Prof. Nocard, of the Alfort Veterinary School, France.

Professor Nocard commenced his work in connection with this disease in Ireland on April 1st. 1901. The Department associated Principal Mettam with him in these investigations, who later assigned me as assistant to both.

To elucidate matters I will briefly note the outcome of the researches :

1. White scour and lung disease in calves are one and the same disease, in spite of the differences in the seat and symptoms of these maladies.

2. This disease is caused by a specific microbe or pasteurella.

3. It is through the umbilicus at the moment of birth that the germs of the malady enter.

4. A prophylactic treatment of the umbilical infection will succeed in stamping-out lung disease as well as white scour.

Before proceeding further, it is necessary that we should have some knowledge of the treatment of incalf cows and calves, together with the conditions of the cow and calf sheds.

The incalf cows when taken in from grass in the autumn, are in most cases fed entirely upon hay and water. During the day, between the hours of 10 a.m. and 4 p m., they are turned out into a paddock which, in wet weather, becomes a perfect puddle, intermixed with excrement of the cattle. Here they stand these long six hours, literally starving, up to the knees in mud, and often without a particle of shelter, from December until the calving period, March, April, and May. Needless to say, in these paddocks grass is conspicuous by its absence, but sometimes a little hay is given them. This treatment in my opinion is nothing short of cruelty. The result is, that when the calving season arrives the animals are so weak and emaciated that they sometimes require assistance to get them on their feet. The treatment of the calves is little better. They are allowed to fall among the fæces and urine, and then dragged within reach of their mothers who are allowed to lick them dry. Instead of being carried into a clean well littered shed, the calves are allowed to sprawl about in the byre among all the filth imaginable during their futile attempts to stand. A small number of the calves are fortunately allowed to suck their mothers, while the unfortunate ones are subjected to pail feeding. Of the latter, some receive new milk for three weeks after birth, others for a week, and others again for two or three days only. As a rule they are served twice daily, occasionally three times at the outside, and after the above mentioned periods creamery milk is added, or given alone.

The cow and calf sheds are not only dark, dirty, and badly ventilated, but considerably overcrowded. The floors are largely composed of permeable materials, such as earth, with paving stones dotted here and there. The surface is always irregular, thus allowing the fluid excreta to collect and permeate. A better medium the saprophytic microbes do not require for their development and propagation. The solids are removed occasionally and piled up close to the door, often so as to impede access to the building and interfere with the free circulation of air. The condition of the calf sheds leaves much to be desired. The floors and litter in many cases were extremely dirty, the calves overcrowded, and no attempt made at isolation of the sick, whose diarrhœtic matters soiled the litter, plastered the walls, and often formed a close fitting though unpleasant costume for his neighbour.

It is evident from the above conditions under which animals are reared, that the newly born calves are badly nourished and ill-developed, and when afterwards subjected to these unhygienic conditions they are much less able to withstand the attacks of microbic infections than those which receive reasonable treatment.

Definition.

White Scour is the most predominant symptom of a septicæmic disease, caused by organisms—"Pasteurella," which gain entrance through the umbilicus at the time of birth and manufacture a toxin capable of paralysing the white cells of the body. This renders the body defenceless, and it becomes the prey of numerous secondary infections proceeding from the intestines and lungs. These secondary infections under normal conditions are kept in check, but when all control is removed they become pathogenic and cause white scour and lung disease.

Symptoms.

White scour is seen in calves from two to six or eight days old generally. Sometimes the calf dies on the same day as it is born without showing any signs of diarrhœa. That is to say, the specific pasteurella may kill the calf in a few hours before the usual symptoms of white scour have had time to develop. There are no premonitary signs of infection, except that a loss of appetite may be noticed previous to the appearance of diarrhœa, and if the umbilicus be grasped in the hand and squeezed ; pain is often evinced. The disease is characterised by an intense intestinal flux. The matter expelled is white in colour and frothy, with an offensive odour, sometimes it is of a yellow or greenish colour, and in very acute cases tinged with blood. The affected calf visibly weakens, presenting a tucked up belly, arched back, drooping head, sunken eyes, and hair erect and harsh. Associated with the diarrhœa there is often tenesmus, and the rectum may become everted. The

animal lies moaning, sometimes bellowing, and appears to be in the most acute agony. The nose may be thrust towards the flank, indicating the seat of pain. The muzzle is hot and dry, with a greyish or whitish discharge from the nose. Lachrymation is always profuse. The temperature is seldom very high, and often falls below the normal prior to death. The surface of the body and the extremites are cold. The pulse is rapid and weak, sometimes initable and intermittent. The conjunctival mucous membrane is injected and of a dirty yellow colour. Towards the end the calf lies stretched on the litter and makes no attempt to rise, and when lifted it is unable to stand. When the symptoms are less marked recovery may follow more or less rapidly, but this recovery is only apparent, for the majority of calves which appear to have recovered die several weeks later from the pulmonary form of the disease. It is not rare to see, in the subacute forms of white scour, a very painful arthritis develop in one or more joints. When several joints are affected the animal is often unable to stand. The joints become swollen, hot, painful, and may suppurate. If the animal recovers the parts affected remain thickened and enlarged for some time afterwards.

There are other complications which are of rare occurrence.

Disturbance of the cerebral functions is sometimes seen in young calves, which have been affected with white scour. Not infrequently they die in convulsions. Sometimes the cerebral symptoms persist for some time and the animal may recover providing it does not die from lung disease.

Necrosis of the mucous membrane of the gum carrying the incisor teeth is often associated with an enlarged, thickened, and suppurating navel. The necrotic patches vary in size from a threepenny piece to that of a shilling, and often extend to the depth of the periosteum. Sometimes large swellings are seen on each side of the face. opposite the molar teeth, and on the rhamus of the lower jaw, which contain necrotic tissue, intermixed with pus and the bacillus of necrosis.

Autopsy.

The lesions vary according to whether the disease has been acute or subacute, but one particular lesion is never absent. It is that of the umbilicus and umbilical vessels. The umbilical cord is always thickened and the coats hardened, enclosing an easily broken down clot, which may be purulent. The umbilical arteries in passing back into the pelvis from the umbilical region are thickened, livid in colour, and contains a grumous easily broken down clot. The fold of peritoneum stretching between the arteries and carrying the urachus is intensely injected and discoloured. This congestion and discolouration often invades the posterior part of the bladder.

The serous membranes, as the peritoneum, the pleuræ, and pericardium are deeply injected and echymosed. The fluids of these cavities are increased in quantity and darker in colour. The intestines are congested, especially the floating colon, the mucous membrane of which is gorged with blood, thickened, and friable. The solitary glands and Peyers patches are hæmorrhagic, swollen, and raised considerably above the level of the surrounding mucous membrane, and may be ulcerated. The contents of the bowel are thin and watery and often mixed with blood.

The abomasum shows changes similar to those of the intestine, exhibiting numerous punctiform hæmorrhages all over the surface. The mesenteric glands, especially those of the colon, are enlarged, reddish in colour and often hæmorrhagic. The mucous membrane of the urinary bladder also shows numerous petechial hæmorrhages, its contents are often clear, but rich in albumen. The liver is congested and jaundiced, but exhibits no gross lesions. The lungs, like the intestines, are gorged with blood and often œdematous. These are, roughly, the lesions found on the post-mortem examination of an acute case of white scour.

In subacute forms the lesions are much less marked. The lungs are seldom perfectly sound, but contain here and there, especially at the lower borders of the anterior lobes, centres of atelectasis, or catarrhal pneumonia. The umbilical cord is voluminous, with hard and thickened coats, and containing in many cases a quantity of putrid pus. The lung lesions are more constant and numerous if the animal has resisted the disease for some time, showing the evolution of lung disease from simple atelectasis to that of suppurative broncho-pneumonia.

Lung disease is a phase or sequel of white scour. The Irish breeders only knows too well that those animals which recover from white scour are certain to fall victims to lung disease. That there is an intimate relation between the two no doubt exists. As I before mentioned, in consequence of the body being deprived of its power of resistance by the paralysing action of the pasteurella, it becomes the seat of secondary infections proceeding from the intestines and lungs. When the animal resists the intestinal infection and recovers from white scour, the pulmonary infection continues to develop slowly, and makes its appearance when the animal is four, six, or eight weeks old, and in the end creates the massed lesions known as lung disease. One might ask the question, will calves contract lung disease when they have shown no symptoms of white scour? No doubt a temporary diarrhœa might be overlocked, but according to our experiments it is impossible to give a healthy calf lung disease if it has not been subjected to pasteurella infection.

Symptoms of Lung Disease.

A calf that has had an attack of white scour and recovered may cough from the time that white scour was present, or it may develop during the first 14 days of life. In other cases no cough is observed until the calf is a month old or more. Then the first sign is general lassitude rather than anything pathognomonic. The animal does not stretch itself on rising, and appears to be dull and weary. The appetite fails and only a small quantity of milk is taken and that not with relish. Dullness increases and the animal wishes to be alone. The coat is harsh, dry, and open, and the calf does not lick itself. The nose is hot and dry with a mucoid discharge. The conjunctiva is injected and of a dirty yellow colour, and there is profuse lachrymation. Fæces are often abnormal in colour and may have a greenish tint. The temperature varies from 101 to 104 F., and the extremities are often cold. Pulse 90 to 100. The respirations are accelerated and there is an occasional dry, painful, suppressed cough. Auscultation revealed a harsh vesicular murmur towards the anterior part of the chest, râles, and ronchi may also be perceived. Percussion reveals nothing definite at this stage.

As the disease progresses the symptoms become aggravated, except the temperature, which invariably falls to nearly normal. The cough becomes more frequent and less painful. The discharge from the nose more copious and muco-purulent. The respirations are 60 to 80 per minute and performed with a distinct effort. Tubular breathing can be made out in the anterior part of the chest, together with râles and ronchi, and dullness at the antero inferior parts of the lung. Condition is rapidly lost, great weakness ensues and death soon takes place, particularly if the animal is exposed to inclement weather and receiving improper food.

Autopsy.

The initial lesions are small areas of collapse, or petechial hæmorrhages, which are followed by a bronchopneumonia, and that is followed by the formation of numerous miliary abscesses. Several adjacent abscesses

in growing become confluent and large ones result. An interstitial pneumonia appears and the abscesses are surrounded by fibrous walls. Pleurisy is always present over the diseased area of the lung. The pleura is often of considerable thickness, firmly uniting the lung to the chest wall. Pericarditis is not uncommon, and the two surfaces of the sac may become adherent through organisation of the exudate poured out.

The umbilical lesions with traces of peritonitis as a result of the primitive infection, may be present, or complete resolution may have taken place.

Bacteriology.

Inoculation produced abundant cultures of various microbes, no matter whether the material was taken from the umbilical clot, liver, spleen, or from the blood of the heart. Thus were present the coli bacillus, para coli, para typhoid, white and yellow staphylococci, streptococci, and several others. Among so many some difficulty was experienced in recognising the offender. Ultimately a subacute case comes to hand, showing distinct arthritis, and examination of the arthritic fluid showed a small microbe, staining with difficulty, to be present in abundance. This microbe Professor Nocard isolated and inoculated into the peritoneum of a guinea pig and veins of a rabbit, and it caused death in a few hours. The autopsy revealed lesions of septicæmia similar to acute cases of white scour. A more careful examination of the material collected previously was made and the same organism was found both in the blood of the heart and umbilical clot, and in the same material from all following cases. On April 16th two calves were received, the one was born on the 15th of the same month and came from a farm where white scour did not exist. The other, four weeks old, came from a farm where white scour prevailed, and it had been attacked with the disease and recovered. The young calf was inoculated by injecting 3 c.c. of a pure culture of Pasteurella into the jugular vein. The other with 10 c.c. of the same culture. The former became very sick and showed the characteristic symptoms of white scour, with a temperature of 91 F., and died in 28 hours. The autopsy revealed the characteristic lesions of white scour, except that of the umbilious, which was absent.

Microscopical examination showed the Pasteurella in almost pure culture in the blood of the heart and fluids of the serous cavities. The latter calf appeared to be a little dull, but soon became himself again, which shows that he had received some immunity from the former natural attack.

From Professor Nocard's previous experience of the Pasteurella and the paralysing action of its toxin on the phagocytes, thereby allowing secondary infection to take place, together with other similar results which this experiment produced, that is, the natural disease in its most rapid form and lesions identical with those of acute white scour, throw some light on the pathogenesis.

Professor Nocard says whatever be the mode of ingress of this specific microbe I am convinced that, in the great majority of cases it penetrates by way of the umbilicus at the time of birth. It grows in the body and sets up a general septicæmic infection, from which the animal may succumb in less than 24 hours. If the animal resists the disease for a few days the body, deprived of its means of defence by the action of the toxins becomes the prey of numerous secondary infections proceeding from the intestines and lungs. If the sick calf resists the intestinal infection and recovers from white scour, the pulmonary infection continues its slow evolution and produces lung disease.

The organism which causes lung disease is identical with that which produces pseudo-farcinous ulcerative lymphangitis in the horse, and in sheep caseous bronchopneumonia. In pus obtained from the lesions the bacilli occur as small, thick, round rods, with rounded extremities, free in the fluid of the specimens or enclosed within the cells. Sometimes they are arranged in parallel lines like the teeth of a comb, or they may be in linear series with short points, increasing in thickness until the final point, which is longer and club shaped. Some are drawn out into shreads at the extremities and swollen in the centre, while others are like cocci bacilli. It stains well by the Gram method. It is an aërobe and grows on all the ordinary media at a temperature of 95 to 100 F. The best medium is serum or defibrinated blood coagulated by heating. On horse serum the growth is white, while on ox serum it is more or less yellow coloured, and on coagulated blood grey. Milk is not coagulated. Microscopical examination of the pus from the abscesses in the lungs in all stages of the disease shows this bacillus to be present in abundance.

The Pasteurella and lung disease bacillus are common facultative saprophytes, and live chiefly upon dead organic materials. They exist everywhere, and are very abundant in dung hills and scrapings from farm yards and the floors of cow and calf sheds.

Owing to the erection and organisation of creameries in the South of Ireland of late years, an idea prevailed that the cause of the disease was to be sought therein. This idea is not tenable because white scour existed before creameries were instituted. Not only that, but there are farms which are ravaged by white scour, where the calves do not receive creamery milk until they are three weeks old, and yet many of them die during the first three days of life.

By what channel does the Pasteurella enter the body. It is possible that the milk if it does not cause the disease may serve as a vehicle for conveying the infection, particularly when the organisms are so numerously present in the floor of the byres. Bacteriological and experimental study made on samples of milk gave negative results as far as the presence of the Pasteurella is concerned. Further, a calf was allowed to suck a cow for four days whose mammary gland had received an injection of virulent Pasteurella culture without any ill effects. Again, a calf 12 hours old was given two litres of milk with 700 c.c. of a virulent Pasteurella culture added, and had only a little temporary diarrhœa and fever on the following day. From this we may say that infection by way of the alimentary tract if not impossible is very improbable.

Can it be inoculated through the respiratory channel? The following experiment goes a long way to prove the negative. A calf four days old was made to inhale 30 c.c. of virulent pasteurella culture diluted with an equal amount of water, and no ill effects whatever were noticed. The constant presence of the umbilical lesion and that of the umbilical vessels shows that it is by this route that the organism enters.

When does infection occur? It is possible that infection may take place *in utero*, or at the moment of birth, during the passage of the fœtus through the vagina the mucous membrane of which is always polluted by various microbes, or it may not occur until after birth, when the ruptured cord comes in contact with the excreta on the floor.

Intra-uterine infection does not occur as a blood stream infection from mother to fœtus, as seems proved by the following experiment. On June 28th two cows due to calve were purchased from the North of Ireland, where white scour is unknown. On the following day, at 10 a.m., these two cows received an intravenous injection of a virulent pasteurella culture. No. 1 cow received 2 c.c. and No. 2 cow 6 c.c. The latter died 28 hours afterwards, and the autopsy revealed hæmorrhagic septicæmia. The blood of the heart and exudations of the pleura and pericardiums gave pure cultures of the pasteurella, but the fœtus, fully developed, had completely escaped infection. The pasteurella had been unable to pass the placental filtre, shown by the inoculation of the

blood etc., on various media with negative results. Cow No. 1 suffered very little and soon resumed her normal condition and gave birth to two fine bull calves on July 1st, which afterwards showed no signs of white scour.

It does seems probable, if the vaginal mucous membrane be always polluted with various microbes, that infection may occur during parturition. The following experiment proved this. A cow due to calve was bought from a farm ravaged by white scour and placed in a special box, which had previously been occupied by a horse. She calved a fine calf on July 6th at 8 p.m., and the calf was found dead on the morning of the 9th. The autopsy showed the usual lesions of white scour with the umbilicus, umbilical vessels, urachus, and bladder covered with suffusions of blood, and the pasteurella in abundance.

The last hypothesis is the most reasonable, and no doubt by far the greater majority of calves are infected immediately after birth.

Prophylactic Treatment.

(1) Render the vaginal mucous membrane aseptic and wash the posterior parts of the cow with some strong antiseptic previous to parturition.

(2) Receive the calf on a clean bed of straw and ligature the umbilical cord as soon as possible. Apply some antiseptic sufficiently strong to destroy all organisms present, and afterwards seal it up against the entrance of others.

(3) Place the calf in a well disinfected shed, with plenty of good, clean litter, and pay attention to the diet.

The results of this prophylactic treatment were rather disappointing in Ireland only. In England, Scotland, France, and Germany it has been very effectual. On several occasions my attention has been called to certain farms in the North of England where it was impossible to rear calves year after year, yet when this treatment was applied the disease was practically eradicated in the course of a few months. After giving this treatment an extensive trial in Ireland and satisfied as to its inefficacy, through the Secretary of the Department I was given a free hand to try what remedies I thought necessary. It at first appeared to me that the antiseptic applied to the umbilicus were either too weak or possessed of very little destructive action upon this particular class of organisms, and that the sealing materials might possibly be at fault. In order to convince myself on these two points I applied very strong solutions of carbolic acid and corrosive sublimate, and sealed the navel with a compound of tar, pitch, and Jeyes' fluid; the results of which were as disappointing as the treatment recommended by Professor Nocard. I am quite convinced that the organism in many cases under my observation did not gain entrance at the umbilicus after birth, and still the umbilical lesions were present at the autopsy. I had noted previously the unhealthy appearance of the fœtal membranes and fluids discharged at and after parturition from cows on farms ravaged by white scour.

The attendants, although not very intelligent, had noticed that when the membranes were abnormal the calves were almost certain to die of white scour. The information received was often of a doubtful character, but in districts where the disease was most prevalent any attendant or farmer could point out certain cows whose calves it was impossible to rear, and had died year after year from the prevailing malady. Together with the fact that abortion exists to the extent of 20 per cent. in these counties where white scour is so rife, I came to the conclusion and still maintain the same opinion, that it is possible for intra-uterine infection to occur.

Professor Nocard informs us that the vaginal mucous membrane is always polluted by various microbes, the pasteurella included. Now is it not possible, owing to the emaciated and debilitated condition of the cows, that when parturition approaches the labour pains are slow, weak, and unable to produce the desired effect; in the ordinary time, that the os uteri may remain dilated more or less for a period of two or three days previous to actual parturition taking place. This would allow the organisms to migrate forwards and infect the fœtal membranes, which in turn infect the fœtus by way of the umbilicus.

I don't wish to say that white scour is abortion or that abortion is white scour, but as the latter exists in Ireland I think there is an intimate relation between the two diseases. I think it is not unreasonable to suggest that abortion may be caused by other saprophytic organisms as well as by the bacillus of Bang.

Immunity.

A calf which had recovered from a natural attack of white scour was inoculated by the injection of 10 c.c. pure pasteurella culture into its jugular vein, and another one which had never been exposed to infection, received an injection of 3 c.c. of the same culture. The latter died in 28 hours, whereas the former only developed white scour in its subacute form, viz., arthritis. This shows that the first attack of the disease, followed by recovery, confers a temporary immunity, and suggests a method of vaccination against white scour, but owing to the rapid evolution of the disease—since if often kills calves on the day of birth it would be very difficult to carry out.

We have seen previously that its pasteurella does not itself pass the placental filtre, but this is not necessarily true of the soluble substances which give immunity. We might ask the question: Does a calf share in the immunity of the mother, recently recovered from a pasteurellic infection? The cow before mentioned resisted an intravenous injection of 2 c.c. pasteurellic culture, and afterwards calved two fine bull calves which subsequently showed no signs of white scour. At the age of five days, calf No. 1. received an intravenous injection of 3 c.c. pasteurella culture and two hours afterwards appeared to be very ill, lying stretched out, breathing 120 per minute, temperature 104 F. A few hours later the symptoms had distinctly abated and it looked much better, but subsequently developed arthritis and a little diarrhœa. Five days later this calf was killed and the autopsy showed the umbilicus, umbilical vessels, and urachus, together with the abdominal organs to be normal, but the lungs were the seat of commencing catarrhal pneumonia, and preparations of the tissue showed the presence of the lung disease bacillus. The affected joints contained the pasteurella in pure culture. There is little doubt that this calf was possessed of great resisting power against the action of the pasteurella. It was only six days old and only developed arthritis, which is a subacute form of the disease. A calf six weeks old bought from a non-infected district, received a similar dose of the same culture and died in 20 hours from the septicæmic form. This experiment proves that the calf does participate in the partial immunity of the mother, and that this mode of vaccination would doubtless prove a success were the immunity complete.

Prophylaxis.

The prophylactic treatment recommended by Professor Nocard is as follows:—

1. Provide the cows that are about to calve with dry and clean bedding and keep it in good condition until after the calf is born.

2. When the cow shows signs of calving, the vulva, the anus, and the perineum should be disinfected with a warm 2 per cent. of Lysol in rain water. The vagina should also be washed by injecting a considerable quantity of the same solution with a syringe.

3. Whenever possible the calf should be received upon a piece of clean cloth, or at least upon a thick bed of clean fresh straw, unsoiled by urine and fæces.

4. The cord should be tied immediately after birth with a ligature of twine which has been kept in the lysol solution : the cord then should be cut below the ligature.

5. The portion of the cord still attached, as well as the umbilicus, should be dressed with the following solution by means of a brush :

Rain water	1 litre.
Iodine	2 grams.
Iodide of Potass	4 „

6. The disinfecting of the umbilicus and cord should be completed by dressing them with another brush dipped in the following solution :

Methylated spirit	1 litre.
Iodine	2 grams.

7. The operation is finished after this spirit has evaporated, by painting upon the cord and umbilicus a thick layer of collodion and iodine (1 per cent). applied with a brush. When the collodion is dry the calf may be left to the care of its mother.

Since this treatment proved unsuccessful, I think the following may be added with advantage :—

1. Better housing and feeding of incalf cows and calves. When the parturition season approaches the cows should receive a liberal allowance of cake or meal, in addition to the subsistence diet.

2. A good, well disinfected box should be set aside for calving purposes alone, and thoroughly disinfected after each case of parturition. The cow and calf sheds to be thoroughly cleaned and the floor well scraped and some strong disinfectant applied prior to the calving season and repeated when necessary.

3. Fœtal membranes and litter soiled by the discharges to be destroyed by fire.

4. All cows after calving to be injected twice weekly with a 2 per cent. solution of carbolic acid, until œstrum appears, to render the vagina and uterus aseptic. An alkaline solution may be injected on the day previous to expected œstrum to neutralise the acidity of the womb, and thereby prevent sterility.

5. The bull to receive an injection of the same solution after the service of each cow.

6. The cow should not be served if there is any discharge of septic materials. In such a case the injection should be continued.

This added to Professor Nocard's treatment I think ought to prove successful in stamping out not only lung disease and white scour, but abortion.

Discussion.

The President said this was one of the most interesting papers he had ever listened to. Mr. Warwick must have taken no end of trouble to bring it before them in this manner, with data, experiments and his own experience, and he had evidently obtained some very definite results which to the ordinary practitioner must be surprising. It was difficult to imagine that three such diseases as white scour. lung disease, and abortion should be so intimately connected as Mr. Warwick had almost conclusively proved. The explanation of the connection between white scour and lung disease was ingeniously explained, and the manner in which the Pasteurella operated reminded him of the bacillus which caused tetanus—locating itself in a certain place and generating a soluble poison. (Applause).

Mr. Steel said he thought that the paper was one of the best they had ever had at their meetings. He knew very little about white scour of an infectious nature. He had had a good many cases of scouring in calves, but he did not know whether to put it down to white scour or not. He had not met with many cases of abortion in the past ten years, but there had been this lung trouble which killed off 75 to 85 per cent. of the calves on certain farms. One farmer bred about 30 calves every year for four or five years during which time he had not more than five or six calves that lived to maturity. One thing that ran in his mind in the case was the bad building ; there was a muck heap like a sump in the yard adjoining. He was almost certain from what he had heard that day and from what he had read, that white scour depended upon this germ entering from the navel, and was associated with picking calf and lung trouble.

Mr. Lindsay also acknowledged the excellence of the paper, and said he quite agreed with what Mr. Warwick had said about the infectious nature of the disease. In his district white scour, especially in the spring of the year, had been prevalent ever since he had been resident there. He had tried everything for it, but had been unsuccessful. The best treatment that he found was to put the calves, as soon as born, into a good, fresh and open place. He remembered years ago from 25 to 30 calves being lost regularly out of one dairy. They took a cart shed and put the newly born calves into it among plenty of clean straw, and there had never been white scour about the place since. In other places he knew of the calves being taken from the buildings and put into a loose box, the doors closed, no ventilation allowed in, and the result was that they died. He was a little astonished when he heard Mr. Warwick say that lung disease, white scour and abortion were all closely connected.

Mr. Ashley asked if Mr. Warwick had ever applied a stronger caustic? What was the objection to applying a very concentrated solution of carbolic acid, say one in five?

Mr. Warwick said there would be no objection. He had used one in four.

Mr. Ashley : Where do you ligature the cord?

Mr. Warwick : About an inch from the abdomen.

In reply to other questions, Mr. Warwick said he did not take the ligature off after ; he let them stop on. The navel did not swell up.

Mr. Ashley : I have met with cases where it did.

Mr. Garnett said he must also thank Mr. Warwick for his paper, and if he had to express any opinion about it he must say his opinion was that it was the best paper that had ever been read before the Society since he had been connected with it. Nine out of every ten assemblies of veterinary surgeons would bring a batch of protests against a man who was bold enough to assert that lung disease, inflammation of the umbilicus, and white scour were one and the same. But he had had a little talk with Mr. Warwick on this subject before, and he had taken the trouble to make inquiries in cases of white scour. If an inquiry was carried on by members of the Society in the different districts they would find how very common it was to have white scour and this lung disease together. Also how very common it was for white scour in calves to accompany abortion in cows. He regretted that there was not a larger attendance as the subject was one which would open the minds of them all. Even if they were not successful in their first attempts for the prevention of the disease—as was the case with Mr. Warwick—he was certain that Mr. Warwick was working on the right lines and the work wanted to be continued. He was greatly obliged to Mr. Warwick for coming there and giving them the paper. (Applause).

A vote of thanks was heartily accorded to Mr. Warwick, on the motion of the President, seconded by Mr. Lindsay.

Mr. Warwick thanked the speakers for their flattering remarks. Referring to swelling of the navel after ligature, he said in 99 cases out of 100 it was due to absorption of septic material drawing the phagocytes towards the seat of infection ; or it occurred in cases where the umbilicus had not been sufficiently stretched and the cords of the vessels not being ruptured in a

proper manner there might be an effusion of blood. He had found it necessary once or twice to ligature and seal up afresh. In the application of antiseptics to the navel he had applied pure carbolic acid several times, and it did no harm. It coagulated the albumen in the tissues and rendered the remains of the umbilical cord firm and hard, and impossible for germs to gain an entrance, then seal it up with pitch tar and creolin. He mentioned a farm which had been ravaged with white scour for twenty-five years. On that farm a particular cow never reared a calf. The first calf died of white scour and the second was aborted at the end of five months. The third died of white scour', and the fourth was aborted at the seventh month. The cow was bulled again at the first opportunity, and he was present when she calved the fifth time. She was a bit deceptive, and kept them watching for two or three days. During that time she was syringed with two per cent. solution of lysol. When she calved the cord was ligatured before it was broken. The calf was carried into the house and laid before the kitchen fire on a clean mat. The cord was dressed every three hours with pure carbolic acid and rapidly sealed with pitch and tar. Next morning the calf was taken into the orchard and laid on the grass, where cows had never been before. At the end of 30 hours it died, and a post-mortem revealed lesions of acute white scour, with distinct lesions of umbilicus. How the germ gained entrance into the calf he could not tell. He thought that Professor Nocard had succeeded in finding out the cause, and the greater part of the treatment. On some farms in the district he had treated for white scour where they could scarcely rear a calf before. They only applied ordinary treatment. In Ireland there were particular farms where they could not cure by Professor Nocard's treatment. He had the organisms of the pasteurella of white scour, lung disease, redwater in cattle, redwater in dog, and one or two more if the members cared to see them. (App.)

These were afterwards inspected with much interest by the members.

The PRESIDENT then mentioned a disease which was very common in his district amongst calves a few days or a week old, and was known as navel ill. Calves affected with this complaint suddenly developed serious symptoms of illness with great prostration, and many died in a few hours if not properly attended to The navel was invariably found to be thickened and inflamed, and if the calf lived more than 24 hours after the first symptoms were noticed white scour set in. The most curious part of this disease is the fact that it is so amendable to treatment. Even calves that seem to be all but dead when properly treated soon get well again. The treatment consists of laying the navel well open with a cross section and then applying freely an antiseptic, preferably lig. ferri. perchlor.

Mr. WARWICK said this was a form of white scour in which the cocci became localised.

Mr. STEEL said he could not think that this navel disease was associated with white scour. He described his treatment of thick navel, dissecting round about and relieving it with his finger, taking away the diseased part, then dressing the navel with carbolic oil. He had never lost one since he adopted this treatment.

In reply to Mr. Lindsay, Mr. Warwick said the white scour in this part of the country was the same as that in Ireland, but in a less acute form.

SOUTHERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

MEETING AT BASINGSTOKE.

The quarterly meeting was held at the Red Lion Hotel, Basingstoke, on Thursday, 11th December. Mr. E. R. Harding, of Salisbury, the president, being kept at home by illness, Mr. E. Whitley Baker, of Wimborne, the treasurer, was requested to take the chair. There were also present Messrs. F. Spencer, Basingstoke, hon. sec.; W. Caudwell, Chertsey; P. J. Simpson, Maidenhead; J. A. Todd, Worthing; A. C. Wild, Woking; and H. L. Roberts, Board of Agriculture.

Apologies for absence were received from Messrs. Harding, Parr, C. Pack, J. F. Simpson, Prof. Pritchard, C. Carter, J. T. King, Colonel Nunn, H. Jeffries, J. B. Martin, C. Colebrook, E. C. Howard, Col. F. Duck and T. B. Goodall.

The CHAIRMAN, in his capacity of treasurer, stated that he had not paid the two guineas to the Royal Victoria Benevolent Fund for this reason: He had handed over to him by Mr. Pack a balance of £3 3s. 10d. Since he had been treasurer he had spent £6 19s. 8d., and it went without saying that he could not expend another two guineas and have a balance on the right side. He thought it desirable to mention this for the information of those members of the Society who were in arrears.

In answer to the Hon. Sec., the Chairman said he could not say without going into it how much money was in arrears, but he knew that several gentlemen had not paid.

Mr. P. J. SIMPSON suggested that a notice be sent to the members who are in arrear pointing out the State of the Society's finances with a view to getting in the subscriptions before the annual meeting.

This the Chairman undertook to do. He went on to say that he thought it just as well to send off the amount promised to the Benevolent Fund forthwith.

The minutes of the last meeting, as published in *The Veterinary Record*, were taken as read and confirmed.

HONORARY ASSOCIATE.

The CHAIRMAN said he had pleasure in moving that Vet.-Lt.-Colonel Nunn be elected an hon. associate of the Association.

The SECRETARY seconded, and the proposition was carried unanimously.

A REPLY FROM THE WAR OFFICE.

The HON. SEC. stated that at the last meeting he was requested to write to the War Office with reference to Vet.-Captain Spanton. He received a reply, dated the 13th November, as follows:

[LETTER.]

War Office, London, S.W.
13th November, 1902.

Sir,

With reference to your letter of the 21st ultimo, regarding the grant of honorary rank in the Army to Temporary Veterinary-Captain J. P. Spanton, late Veterinary Officer, 1st Battalion, Imperial Yeomanry, I am directed by the Secretary of State for War to point out to you that paragraph 40, Imperial Yeomanry Regulations, and Article 431, of the Royal Warrant, do not apply to the case, as Captain Spanton has neither been appointed to a Commission in the Imperial Yeomanry at home nor to one in the Army Veterinary Department.

With regard to the grant of the honorary rank in question infringing the provisions of the Veterinary Surgeons' Act of 1881, Mr. Brodrick is advised that the power of the Crown to grant such honorary rank is in no way affected by that Act,—I have the honour to be, sir, your obedient servant,

E. W. WARD.

It appears therefore, commented the Hon. Sec., that Mr. Brodrick can break any Act of Parliament.

Mr. CAUDWELL: With impunity.

The HON. SEC. moved that the reply from the War Office be entered on the minutes.

The CHAIRMAN suggested that the Association should express its surprise that the Crown had no power to prevent such a rank being conferred upon one who was not qualified to receive it. Also that the Secretary write to ask if this has occurred before, and if not, whether this was to be taken as a precedent.

Mr. CAUDWELL seconded the motion, and it was carried *nem. con.*

SUGGESTED REVISION OF RULES.

The HON. SEC. moved that three instead of four meetings be held in the year and that they be held in February, June, and October. He thought this might lead to better attendances.

The CHAIRMAN was of the contrary opinion. He thought the more meetings they had the more enthusiam they were likely to infuse, and the more likely they were to get members to attend. Mr. Todd had asked them to extend the scope of the Association. If that was done it went without saying that they must have a meeting once a year in his neighbourhood. Members who lived at the extreme end would probably find it impossible to attend that meeting, as Mr. Todd had found it inconvenient to come this way. If they had only three meetings a year they would have to miss one of them, and as for the remaining two something might crop up to prevent their attendance. He was afraid that by having fewer meetings and extending their boundaries they would harm the Society instead of benefiting it.

Mr. P. J. SIMPSON said he thought it was desirable to have four meetings a year.

Mr. CAUDWELL said that if their sphere of influence was to be extended, four meetings would be few enough.

The CHAIRMAN invited Mr. Todd to give his views on the matter.

Mr. J. A. TODD said he had been asked to become a member of this Association, but he could see that it would be very awkward for him to attend meetings which were generally held at Southampton or in that direction. But whether they were able to meet his views or not he should like to join the Association, and he would do all he could to whip up new members in his own district, but he should like the Association, if they could see their way to do so, to come his way occasionally. He believed that no meeting of this Association had ever been held on the eastern side of a line drawn from Portsmouth to London.

Mr. CAUDWELL said he believed the Association held a meeting at Brighton many years ago.

Mr. TODD said he had never heard of one. He thought that if the Association extended their wings towards Sussex a meeting in that county once in 12 or 18 months would answer the purpose, and it would probably cause more members of the profession to join. He could give the names of three who would join at once if they saw any possibility of taking part in meetings held near them.

The HON. SEC. said that Chichester, Worthing, Horsham, and Brighton might be visited in turn. The Association was started at Croydon, but it seemed to have left that district for Southampton. Yet they did not get a single Southampton member to attend the meetings there.

At the suggestion of Mr. P. J. Simpson it was decided to postpone the revision of the rules until the annual meeting.

On the proposition of Mr. P. J. Simpson, seconded by Mr. W. Caudwell, it was resolved to hold the next meeting at Portsmouth, which is easily accessible from Sussex.

Mr. J. ALEX. TODD was then proposed as a member of the Association, on the proposition of the Chairman, seconded by the Hon. Secretary.

SPECIMENS.

Mr. W. CAUDWELL exhibited a few interesting morbid specimens. The first was a specimen of filaria immitis taken from the right side of the heart of a Japanese dog which suffered from difficulty in breathing.

The second was a large stone found in the small intestine of a dog whose death resulted from rupture of the bowel.

The next specimen was a large stone found in the intestinal calculus of a mare which died from peritonitis.

The last specimen was the heart of a pig. It was a case of verrucose endocarditis, and the left cavity of the heart was plugged up with vegetations.

Mr. A. C. WILD mentioned that he had had a case of a mare which passed three stones weighing sixteen ounces each.

Mr. P. J. SIMPSON mentioned a case in which he had drawn a hat pin 4½ inches long from a cat. No septic trouble followed.

Mr. CAUDWELL said he had had an unusual case in which, when making a post-mortem examination of a pig, he found a piece of wood sixteen or eighteen inches in length in the intestines. The puzzle was how it could have got there. He found no sign of it having been pressed in. There was no external opening, and the only conclusion he could come to was that the pig must have swallowed it.

The HON. SEC. said he had had a case of a lady's hat pin in a bullock. Two years ago he had a peculiar case in Basingstoke of a Dandy Dinmont terrier which passed a piece of a lamb's foot with the wool still adhering to it. The dog had stoppage for three weeks, but recovered.

The CHAIRMAN moved a vote of thanks to Mr. Caudwell for bringing his specimens before the meeting, remarking that they were all interesting cases.

Mr. P. J. SIMPSON seconded the motion, and it was carried unanimously.

Mr. W. CAUDWELL briefly replied.

VOTE OF CONDOLENCE.

Mr. CAUDWELL referred to the fatal accident to Mr. F. R. Stevens, of Redhill, who was thrown from his horse and killed instantly. Although not a member of this Association, he was a member of the National Association, and he would suggest that the meeting send to his widow (and to his family, if any) a vote of condolence and sympathy.

The CHAIRMAN seconded the motion, and it was agreed to.

(To be continued)

VACCINATION OF DOGS WITH THE JENNERIAN, HUMANIZED OR CALF VARIOLOUS LYMPH AS A PREVENTIVE AGAINST DISTEMPER.

Delabere Blaine, surgeon and veterinary surgeon, the father of canine pathology, and as yet unsurpassed in the correctness of his observations on the diseases of dogs, wrote in his third (1832) and fourth (last original) (1841) editions of "*Canine Pathology*" thus:

"*Vaccination and inoculation with the matter of distemper* have both been practised, one for the *prevention*, the other for the *mitigation* of the disease. *Vaccination* so performed, is a proof of the gullibility of the public, and readiness to believe what is wished, particularly when it comes from a popular source and where it would be *unfashionable* to disbelieve. My early experiments convinced me of its total inefficacy as a preventive of distemper; but so positive were the assertions to the contrary, that I spoke diffidently. Dr. Jenner had lent his name to the error, and I make no doubt he believed what he asserted, but he had not waited the proof. Vaccination, it is now sufficiently ascertained, neither

exempts dogs from the distemper, nor does it appear at all to mitigate its severity, for I have seen a sufficient number of dogs which had been vaccinated afterwards die of distemper. *Inoculation with the matter of distemper* is equally ineffectual in mitigating the complaint, even when it is borrowed from the mildest forms; on the contrary, many dogs, which have taken the disease by inoculation have had it with peculiar severity, and others have sunk under it."

There are still many persons, including some medical men and even a few veterinary surgeons, who still believe in what Blaine and others pointed out nearly a century ago as an error. One has only to read canine papers and even a prominent medical journal to find that there are some men as ignorant of their ignorance on this matter as there were in Blaine's day.

Royal College of Veterinary Surgeons.

FELLOWSHIP DEGREE.

A meeting of the Board of Examiners for this Degree was held on the 13th inst. Four candidates entered for the Examination and the following is a list of those who passed and duly received the diploma:

Mr. F. G. Edwards, Chester.
W. P. Weston, York.
Jas. Borrowman, Cupar Fife.
Geo. Elmes, St. Albans, Herts.

The Examiners were Professor J. Macqueen, Mr. W. Hunting, and Mr. J. Malcolm.

ARTHUR WM. HILL, *Secretary.*

At meetings of the Board of Examiners held in London on December 12th for the Written, and on and between December the 15th and 17th for the Oral and Practical Examinations, the following gentlemen passed their Final Examinations:

Mr. J. G. Bush
A. Cornish-Bowden
N. Gilford.
J. C. Hally
F. T. Hancock
R. E. Klyne
A. C. Lloyd
W. P. Loft
W. L. Little
Mr. A. J MacDonald
G. E. Owen
F. O. Parsons
P. G. Short
C. H. Sheather
A. V. W. Sewell
F. H. Sugden
A. J. Thompson
W. F. Wilson

The following passed their Third Examination:

Mr. T. E. Burridge
E. T. Clemow
J. McRae Frost
R. C. Glover *
J. Hobday
J. T. M. Hughes
Mr. W. G. Litt *
T. A. Nicholas
H. K. Roberts *
J. Richardson
D. O. Turnbull
H. M. Williams

The following passed their Second Examination:

Mr. A. C. Anderson
R. S. Audas
P. T. Bolton
J. A. Bosley
L. L. Dixson
E. G. Haskell
Mr. E. S. Martin
H. Platt
J. M. Richardson
S. Speer
W. K. Townson

The following passed their First Examination:

Mr. A. K. B. Byles
W. G. Blackwell
L. S. Balls
A. G. Doherty *
R. L. L. Hart
J. H. Jones *
Mr. J. H. Jarvis
R. W. Mellard *
E. R. Nichols *
G. B. C. Rees-Mogg
G. C. H. Sharpe

Those marked thus * passed with second class honours.

ARTHUR WM. HILL, *Sec.*

CALF MORTALITY: DISCUSSION IN LIMERICK.

At a largely attended and representative conference of farmers which was held in Limerick during the week, and which was specially convened by the Limerick County Council for the purpose of discussing the question of calf mortality in that part of the country, a lengthened discussion took place with regard to the steps taken by the Department of Agriculture in connection with the prevention of this disease. The Assistant Secretary to the County Council (in whose offices the meeting took place) read a letter dated the 8th December from the Department of Agriculture in which they expressed regret that they were unable to send a representative to the Conference, adding that their annual report which contains a reference to the matter would be ready in a short time. The members present were unanimous in their disapproval at the action of the Department, and the following resolution was adopted: "That we the members of this conference assembled at Limerick to consider the question of calf mortality make a serious complaint that the Department of Agriculture seems so negligent of the public interest as to decline to send a representative to discuss the future steps to be taken to stamp out the disease in calves and report progress of previous experiments."

Count Moore, a respresentative for Munster on the Agricultural Board, said that he was instrumental in having this very serious question of calf mortality brought into prominence, and in getting the Department of Agriculture to have the disease scientifically investigated. From the results obtained by Professor Nocard there could be no doubt that he has reached the root of the disease, for conclusions scientifically demonstrated cannot be attacked. This gentleman, who has the reputation of being one of the first scientific men in the world to deal with contagious diseases in cattle, continued his researches for several months, and by a process of elimination arrived at the conclusion that white scour was transmitted through the blood, and then by experiments with rabbits and guinea pigs which he inoculated with the fluid taken from the affected animal he further discovered that the disease was bacterial. Having discovered the origin of the disease a remedy was quickly found, but this remedy was what he (Count Moore) had to complain of; not because of its impotency, but because it was impracticable to the great majority of farmers, and it was in order to have this valuable cure put into simpler form, one that would be workable, within the reach of the humblest farmer, that they met here to day, and to ask the Department of Agriculture to give this important matter their attention again. Professor Nocard's remedy was tried, had amptly demonstrated its work, but its very complexity made it for the majority almost valueless. Speaking of his own experiences, Count Moore stated that in the year 1900 he lost 75 out of 114 calves through this disease. Last year with Professor Nocard's treatment he only lost 2 calves out of 90. Of course he had adopted great precautions, and was very particular that the houses should be cleansed and disinfected. For this latter purpose he

had used a mixture of blue stone, coprice and alum, which was very cheap and very effective as a disinfectant, and which he would strongly recommend to the members of the conference present.

Mr. John Ryan, Killenure, said that he followed closely Professor Nocard's experiments and had accompanied him on many occasions. He fully concurred with everything Count Moore had said as to the origin and cause of the disease, and the results that he himself witnessed demonstrated more conclusively than anything else that a remedy had been discovered. He mentioned that in one case 38 calves were treated, all of which lived, and in another case 25 calves were treated out of 27, the two which were not treated died, all the others lived, and were sound and healthy.

Mr. John Hannigan, Altimira, also testified to the very satisfactory results obtained by him. Two years ago he only saved 9 calves out of two dairies of 75 cows —last year with Professor Nocard's treatment he only lost one calf.

Mr. Michael J. Nolan, Newtownards, Vice-Chairman Kerry County Council, said that for the six years previous to last year he had lost 120 calves, but with Nocard's treatment the mortality had been almost *nil* last year. It was, however, his opinion that the remedy was of no service while in its present form. Four bottles had to be applied, and these in prescribed order, and this, as everybody knew, was too complex for the general run of farmers; in fact, it had been the means of preventing people who would have tried it otherwise.

The following resolution was then adopted :—"That the Department be requested to submit Professor Nocard's treatment to their veterinary and medical advisers, and request them to draw up a leaflet embodying in clear popular language a system of treatment founded on Professor Nocard's lines, but simplified as much as possible, so as to bring it within the reach of the whole community, and available for the use of small farmers."

Mr. Vaughan proposed the following resolution :— "That a request be made to the Department to take the necessary steps to have the calf disease scheduled under the Contagious Diseases Animals Act with a view to having the same sanitary precautions taken for disinfection of premises as are adopted in regard to the other contagious diseases."

Mr. Hannigan seconded the resolution which was passed.

On Behalf of Pit Ponies.

An appeal is made on behalf of the Yorkshire Society for the Encouragement of Humane Treatment and Kindness to Pit Ponies. "There is," says the appeal, "no doubt that the lot of hundreds of ponies in the bowels of the earth, employed in the many coal mines, at depths from a hundred to eight hundred yards, and from one to three miles inside, underground, away from the human eye, is a very hard one. The ponies' experience, in many instances, is not only receiving an unmerciful thrashing, and being compelled to work the 'clock round,' sometimes with a sore shoulder and lameness, but also to go without food, or even a drink of water." It is to alleviate this state of affairs that assistance is requested. During the year 1901 a large number of coal mines were visited by Mr. W. J. Willis, hon. secretary of the Society, and upwards of two thousand ponies and their stables were inspected. Eighty seven meetings were held, and addresses were given to drivers urging them to be kind to their ponies. A hundred and eighty prizes were awarded for humane treatment, and Bibles and other books were distributed. Further information as to the operations of the organisation may be obtained from Mr. Willis, Holly House, Keresforth Road, Dodworth, near Barnsley, to whom subscriptions should be sent. — *Morning Post.*

ARMY VETERINARY DEPARTMENT.

Extract from *London Gazette* :

War Office, Pall Mall, Dec. 19.

The Imperial Yeomanry (in South Africa).

Unattached.—Temp. Vet.-Capt. J. H. Lockwood relinquishes his commission and is granted the honorary rank of Vet.-Captain in the Army, with permission to wear the uniform of the Corps.

CORRESPONDENCE.

VACCINE EXPERIMENTS.

Sir,

Enclosed is a cheque for £2, being a small contribution to the fund you are so kindly endeavouring to raise for the purpose of investigating distemper.

I have recently injected five puppies with the Phisalix vaccine and have not obtained a single reaction.

I am now using, with other puppies, a vaccine prepared here by myself from gelatine cultures of Millais' bacillus, and await results. The Millais bacillus bears a striking resemblance, under the microscope and in the test tube, to a bacillus which is found in putrid meat infusions.—Faithfully yours,

H. M. Singleton, M.R.C.V.S.

Ealing, Dec. 22nd, 1902.

ACTION AGAINST A M.R.C.V.S. (Roaring).

Sir,

Mr. Calderwood's letter which appeared in your issue of the 13th inst. under the above heading calls for a reply. Perhaps if he had been better informed he would have written differently.

The horse referred to was examined in the usual course of business and the instructions I received were as follows : "This is a horse Mr. Bullard bought a month ago, he wants you to examine him and send certificate." After thoroughly testing him I gave a certificate that the animal was suffering from an imperfection of wind known as roaring, which was in my opinion of long standing. That opinion I adhere to, and the reason I used the term "long standing" was because the animal showed in the test such well-known and pronounced sounds and symptoms that it was evident to my mind that the roaring had been there for a period beyond my knowledge to fix. A few minutes before the case was called I was asked by the plaintiff's council in presence of Mr. Shipley how long the roaring had existed, in reply I stated that as the horse was a confirmed roarer any opinion I could offer on the point would be purely speculative. I regret that I was not asked the question in open court as well as in private.

Harking back to the time when the horse was examined, as soon as I learned that Mr. Mayall was involved. I suggested to Mr. Bullard that he should get Mr. Low and Mr. Shipley to examine him and afterwards have an interview with the vendor and Mr. Howes. Hearing nothing further about the case I concluded it was settled, till informed by Mr. Shipley ten days prior to the action. During the following week I arranged a meeting at the Royal Hotel (Messrs. Howes, Mayall, Shipley and Bullard present) to settle it out of court if possible. Bullard was prepared to withdraw the action and reduce his claim to a third of the original amount as the vendor was willing to bear part of the loss; this offer Mr. Howes refused to accept, saying the matter was out of his hand and counsel engaged. Later when subpœnaed I endeavoured to get plaintiff to stop proceedings, pointing out that he could not hope to establish his claim if Mr. Mayall showed that he had exercised due care in the performance of his duties. I cannot understand why Bullard and his solicitor went on with the case, unless they thought they were backed up by Mr. Low and Mr. Shipley.

I trust the above explanation will be satisfactory to Mr. Calderwood, showing how far I have tried to act in a friendly way.

In reply to Mr. Mayall's letter of the 20th, if he feels aggrieved I venture to say that if he chose to bring the matter before the members of the Eastern Counties Veterinary Medical Society they would be pleased to grant him every opportunity of ventilating his grievances and "unfolding his tale."—Yours faithfully,

Norwich. JOHN POLLOCK.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED.—Messrs. W. G. Green, E. L. Stroud, John Pollock, A. J. Sewell, G. Mayall, A. W. Hill, G. H. Locke. Capt. M. H. Hayes. "A.V.D."

"*Common Colics of the Horse*," H. Caulton Reeks, F.R.C.V.S., Baillière, Tindall & Cox; *American Veterinary Review*, (Dec.) *Scottish Farmer Almanac.*

Veterinary Societies—Addresses.

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